

DESCRIPTION OF CAPITAL IMPROVEMENT PROGRAM

FISCAL YEARS 2005 – 2009

The Capital Improvement Program (CIP) contains the budgeted and proposed capital improvements by project description, proposed funding source, and scheduled costs. The CIP is a planning and financial tool for the City to prepare for future needs. The City's CIP is in two parts. The first part covers the proposed capital improvements in the General Fund. The second part covers those improvements in the Water and Sewer Fund. A brief narrative is provided for each proposed project. Following the narratives, a detailed CIP schedule for each fund is presented.

General Fund CIP

The following projects have been proposed over the next five years in the General Fund. Funding has been provided for the FY2004-05 projects in the budget.

City Office Building: Future capital needs include renovations to the first floor, and renovations to the storage area on the fourth floor to convert it into office space.

Impact on Operations: There will be no impact on operations.

The Plaza: The City has been experiencing a moisture problem in parts of the Plaza. Based on a preliminary report from a consultant, the City will need to make significant modifications to a wall to eliminate the moisture problem. The total cost for this project could exceed \$1,500,000 and the City anticipates issuing debt for this project. Other future capital needs at the Plaza include the refurbishment of vacant apartments, renovations to the first floor and the structured replacement of appliances in the apartments.

Impact on Operations: There will be no impact on operations, but if debt is issued to solve the moisture issue, the City could have additional debt service costs of \$180,000 annually for ten years.

Roof Replacement for Various Facilities: The City is continuing its annual roof audit process and is replacing roofs throughout the City on an 'as-needed' basis.

Impact on Operations: There will be no impact on operations.

HVAC Replacement for Various Facilities: The City is continuing a systematic replacement of 'end-of-life' commercial-grade HVAC systems.

Impact on Operations: There will be no impact on operations.

Fire Department: Current capital needs for the Fire Department include an assortment of repairs at all three fire stations. Future capital needs include a new fire station that will likely be constructed in FY06 or FY07. This station is needed to protect the businesses and residences in Highway 70 growth corridor.

Impact on Operations: The greatest impact of the CIP on General Fund operations will be in the construction and staffing of the new fire station. Currently, the estimated additional personnel, operations and debt service costs will be approximately \$826,000 annually. There will be no impact on operations for the other improvements.

Land Management and Development – Ellis Street Bridge Grant Project: Current capital needs for the Land Management and Development Department include funding for the design and 'right-of-way' purchase related to the Ellis Street Bridge Replacement. The North Carolina Department of Transportation will reimburse 80% of the project's total costs.

Impact on Operations: There will be no impact on operations.

Public Services – Street Division: Current capital needs for the Street Division include an equipment storage facility at the landfill, but due to FY05 budget constraints, this project was deferred. Future capital needs include the construction of a dry materials storage building for the protection of sand, road-salt, mulch, & gravel from the effects of weather, enclosure of vehicle bays, building addition, and additional parking.

Impact on Operations: There will be no impact on operations.

Public Services – Landscape Operations / Hurley Park: Future Landscaping and Hurley Park capital needs include the construction of additional parking at the South Main Street Landscaping Facility and the introduction of an irrigation system to Hurley Park between North Craige Street and Hobson Road.

Impact on Operations: There will be no impact on operations.

Parks and Recreation – Park and Facility Improvements: Current capital needs for the Parks and Recreation Department include funding to maintain the condition of the parks and to upgrade worn equipment and facilities.

Impact on Operations: There will be no impact on operations. A constant amount of funding is appropriated annually to improve and renovate park equipment and facilities.

Parks and Recreation – Civic Center: Currently the City has appointed a task force to evaluate the need, size, and operational issues related to a Civic Center. It is anticipated that the task force will present their findings to City Council for their consideration next year.

Impact on Operations: There would be an impact on operations, but the extent is unknown until the task force makes their report and Council proceeds with the project. Debt service would be required annually for financing the facility, but again the amount is unknown until the scope of a new facility is approved by Council.

Parks and Recreation – Sports Complex Renovation: As this facility ages, future renovations will be required to repair the fields and buildings. The fields need to be properly graded to promote adequate drainage and also need to be re-seeded.

Impact on Operations: There will be no impact on operations.

Parks and Recreation – Town Creek Park Development: Future capital needs include funding to develop the Town Creek Park and construct a gymnasium and swimming pool at this location.

Impact on Operations: This will require a capital commitment.

Parks and Recreation – Park Land Acquisition: Future capital needs include acquiring new land for parks.

Impact on Operations: There will be no impact on operations.

Parks and Recreation – Bankshot Basketball: Future capital needs include installing a new bankshot basketball court.

Impact on Operations: There will be no impact on operations.

Impact on Operations in General Fund – Most capital improvements will not have a major impact on the operating costs of the General Fund. There are three exceptions to this. Both a new fire station and Civic Center would incur additional costs for staffing and operations. The third exception would be the debt related to the Plaza moisture remediation. A standard amount is allocated in the General Fund Budget for improvements related to the upgrade of aging and inadequate offices and buildings.

Water and Sewer Fund CIP

The Water and Sewer Fund's CIP is divided into Water Improvements and Sewer Improvements. The following projects have been proposed over the next five years. Funding has been provided for the FY2004-05 projects in the budget.

Water Improvements

Annexation: Annexation is proposed in the Highway 29/Airport Road area and would become effective June 30, 2005. Water line installation would begin during FY06 and be completed in FY07. Salisbury-Rowan Utilities (SRU) has promised to provide both public necessity and public convenience water to serve the entire annexation area. The proposed lines will provide our newest citizens with the same quality level of service and fire protection that our current residents enjoy.

Property Acquisition: Salisbury-Rowan Utilities is trying to plan for the future growth of the City, Rowan County, and the utility infrastructure that we operate. Property in strategic locations is currently being identified and examined for potential usefulness in this planning stage.

Security Improvements: The Vulnerability Assessment mandated by the EPA during FY04 identified utility sites where security needs to be improved.

River Pump Station Improvements: There is a segment of raw water line located in the yard of the river pump station that is made of concrete. This line needs to be replaced with ductile iron. Additionally, the surge vault needs to be overhauled and/or replaced with an expansion tank to accommodate the variances in water pressure when the system is operating.

New River Pump Station Design: The existing Raw Water Pump Station was constructed in 1917, and expanded to its current size in the 1950s. In 1968, a new intake was constructed with a withdrawal capacity of 24 MGD. However, all of the structures were built in the flood plain. This is the only supply of water for the City of Salisbury and much of Rowan County. The station is both inaccessible and potentially irreparable during flood events, except at great risk to personnel. A need exists to build a new raw water pump station at a location out of the floodplain as well as to increase withdrawal capacity for future system demand.

Emergency Generators: Currently SRU only has one finished water booster station with stand-by emergency power generation. There are six additional booster stations that need back-up power to ensure that all our customers have an adequate supply of water during emergency conditions.

Rockwell Water Main: An upsizing of the main artery through downtown Rockwell is necessary to provide adequate fire protection and to supply the future growth expected along the NC Highway 152 corridor.

Granite Quarry Secondary Supply Line: There is one main distribution line serving the towns of Granite Quarry and Rockwell. This line would provide a redundant source of water as well as improve the hydraulic characteristics of the distribution system along NC Highway 52 South.

Faith Water Extension: The Town of Faith is currently building a sanitary sewer system that will discharge into SRU's Town Creek Basin. Long range plans include running an appropriate sized line to serve that area with potable water and additional fire protection.

Raw Water Reservoir (30 MG): This is for a new raw water reservoir. State regulations require 5 days of off-site storage in the event of equipment failure or poor raw water quality. With the expansion of the Water Plant to 24 MGD, additional reservoir capacity will be needed for the protection of the system.

Water Treatment System Rehabilitation Projects:

- **Raw Water Reservoirs (RWR) Apron Repair:** The NC Department of Environment and Natural Resources (DENR) has recommended that the aging, damaged sections of the existing wave aprons on

our raw water reservoirs be repaired or replaced. The concrete wave aprons extend approximately 25 feet into the reservoirs. They are keyed into the walls of the reservoirs to prevent them from sliding into the basins. Some will need to be totally replaced and some will only require repairs. These are the original wave aprons that were installed when the two reservoirs were constructed in 1917 and 1964.

- **SCADA Remote Terminal Units (RTUs):** The existing SCADA system was installed in the late 1980s. Most of the equipment running today is outdated and parts are not available. Technical support for this equipment has stopped. When equipment breaks down, it takes weeks to have repairs made to get back on-line. SCADA helps with monitoring, because without it, plant personnel are literally blind to what is happening in the water system.

Automated Meter Reading (AMR) System Conversion: Phased implementation of automated (radio) meter reading. AMR is an acronym referring to the reading of a system of meters using a system of communication (such as radio) to communicate between the meters and the unit performing the “read”. SRU plans to work toward the phased implementation of a system whereby individual water meters would be read by radio receivers mounted on water tanks and other high-elevation locations. These receivers would relay the information to the Customer Service division for preparation of the monthly utility bills. This would enable a smaller number of meter readers to repair/troubleshoot all of utility’s meters, thereby freeing up personnel for other duties. It will require a significant funding commitment over time, as each meter will require either change-out or adaptation.

Water Treatment Plant Renovations:

- **Back-up Diesel Pump** – If there is an electrical problem at the water treatment plant or if the switchgear fails, a diesel-fueled pump would provide enough pumping capacity to keep the distribution system from completely shutting down.
- **Upgrade Water Plant Filter Venturis** – Currently, the venturis are rated at eighteen million gallons per day. To increase the production capacity of the plant, the venturis assemblies need to be upsized.
- **Electrical System Upgrade** – The majority of the existing water treatment plant was built more than 30 years ago. Technological improvements now control a majority of the plant. Manual devices have been upgraded to automatic ones, and computers monitor portions of the vast treatment process. The original building’s electrical service was not designed with this power consumption in-mind, therefore certain circuits need to be upgraded to handle the existing and future demands.

Elevated Storage Tanks: The existing tanks were located to accommodate our present system. With the expansion of the water system to supply a larger service area, the need for additional storage will be necessary. This will help buffer high-demand periods at the Water Plant, correct pressure problems, and also provide fire protection. Tanks will be needed in the near future along both the Highway 70 and Highway 29 corridors as demand grows.

Sewer Improvements

Annexation: Annexation is proposed in the Highway 29/Airport Road area and would become effective June 30, 2005. Sewer line installation would begin during FY06 and be completed in FY07. Salisbury-Rowan Utilities (SRU) has promised to provide both public necessity and public convenience sewer to serve the entire annexation area. The proposed lines will provide our newest citizens with the same quality level of service and fire protection that our current residents enjoy.

Property Acquisition: Salisbury-Rowan Utilities is trying to plan for the future growth of the City, Rowan County, and the utility infrastructure that we operate. Property in strategic locations is currently being identified and examined for potential usefulness in this planning stage.

Wastewater System Security: Needed improvements to achieve compliance with state and federal anti-terror recommendations related to infrastructure protection. The Vulnerability Assessment mandated by the EPA during FY04 identified utility sites where security needs to be improved.

Fiber Optic Extension: The majority of the facilities operated by Salisbury-Rowan Utilities are not served by the fiber optic network found throughout the city. By extending the current system to incorporate the satellite facilities, improved communications, security, and remote process monitoring can be implemented.

Inflow & Infiltration (I&I) Reduction: Repair of aging infrastructure to be in compliance with state and federal standards after being identified through regular, mandated inspections. I&I is a significant problem, as it uses up existing treatment plant and lift station capacities and also causes occasional overflows and spills. Lines identified by SRU staff may be targeted for major repair or replacement using this funding.

Emergency Generators: Currently some of the sewer lift stations do not have emergency back-up power generation. Having stand-by power, or at least having connections to mount a portable generator, allows the lift stations to operate without significant interruption.

Town Creek Belt Press: This item involves replacement of an aged plate-and-frame press at the Town Creek WWTP facility. The existing press cannot be cost-effectively maintained and is both obsolete and inefficient. The Grant Creek belt press is currently operating at maximum capacity seven days/week; when the Town Creek press is not operational, sludge must be hauled to the Grant Creek Press for dewatering, and a single press cannot process the sludge from both plants. Rehabilitation of the existing plate-and-frame press would be as expensive as a new belt press. The belt press is both more efficient and less expensive to maintain; also having two similar presses will be less costly to maintain and operate.

Elimination of the Biosolids Land Application Program: With environmental regulations becoming more stringent and the ever decreasing availability of farmland in this county, Salisbury-Rowan Utilities is exploring the opportunities of turning the production of biosolids into a “Class A” fertilizer that has no regulatory requirements. This program would consist of:

- Heat dryers at the Town Creek and Grants Creek Wastewater Treatment Plants. These dryers superheat the residuals and eliminate all moisture in the product.
- A conveyor system to move the product from the plant to a storage pad.
- A sludge thickener to make the process more efficient by removing as much moisture as possible before the product is entered into the dryers.

Wastewater Treatment Plant Equipment Replacement Projects:

- **Clarifiers (2):** Rehabilitation of existing clarifiers at Town Creek WWTP. These clarifiers have not had any major rehabilitation since they were installed in 1965. The clarifiers need new gearboxes and complete center-feed systems.
- **Waste Pumps:** Re-plumbing and replacement of existing waste pumps at the existing facilities to accommodate an emergency pump-around solution while maintaining standard plant output. The current pumping system does not allow varying pump rates; new pumps would allow the operator to waste 24 hours per day at lower rate. Re-plumbing would allow the operator to have redundant systems and additional operating capability.
- **Grant Creek WWTP (GCWWTP) Aeration Basin Rehabilitation:** Rehabilitation of existing aeration basin at GCWWTP including four new aerators and six new mixers.
- **Town Creek WWTP (TCWWTP) Aeration Basin Apron Repair:** Repair of existing wave aprons in TCWWTP Aeration Basins. Both basins have experienced deterioration of aprons over time.
- **Screw Pumps Replacement:** Replacing ten old screw pumps at both Town Creek and Grant Creek.
- **Digester Aeration Replacement:** Replacement of existing Town Creek WWTP Digester Aeration. Existing digester was installed when plant was originally built.
- **Additional GCWWTP Digester Space:** The addition of digester capacity at Grant Creek to enhance treatment process and reduce sludge volume. This addition includes a new tank or basin, associated piping, pumps, aeration equipment and valving. The capacity of the existing digesters has not been upgraded since the plant treatment capacity was 5 MGD, even though our capacity has increased to 7.5 MGD.

I-85 Corridor Outfall Line: With the growth explosion along the I-85 corridor from the south, Salisbury-Rowan Utilities needs to extend an outfall line to provide sewer service in this area. This would open development opportunities in central and southern Rowan County.

Plant Capacity Expansion: the Town Creek and Grant’s Creek Wastewater Treatment Plants have a combined effluent discharge of 12.5 MGD. Now that the water treatment plant is nearing completion and will have a

theoretical treatment capacity of 24 MGD, we need to consider what options we have to upgrade our wastewater treatment plants so they can process similar flows.

Wastewater Plant Building Renovations: Plans include replacing the flooring system in the Laboratory with materials that will not be so vulnerable to the highly corrosive environment. Additional improvements include renovating the Atomic Absorption Spectrophotometer (AA) room and installing a new AA machine. The current machine has outlasted its' useful life and any building renovations need to facilitate modern equipment.

Sewer Line Renovations: In addition to routine sewer line repairs performed annually, some line renovations are needed within the small and moderately-sized trunk lines in the system.

Alternative Disinfection System: Alternate means of effluent disinfection to serve as either backup or supplement to the existing ultraviolet (UV) disinfection system. While the UV system is effective, it is significantly expensive in terms of power, maintenance and equipment replacement. An alternate system could significantly reduce overall costs. The EPA and Division of Water Quality have questioned the lack of a backup system and it may be required in the near future.

SCADA Upgrades: There are several sewer lift stations that do not have any monitoring system on them. The majority of these installations are located in the Town of Spencer. This additional monitoring capability would reduce the need for seven-day per week monitoring visits by staff thereby resulting in less overtime and better use of personnel.

Town Creek Access Road: Currently, Heiligtown Road is the only point of access to the Town Creek Wastewater Treatment plant. This road is residential and SRU must use this road to operate tanker trucks and other heavy equipment on a daily basis. An access road is proposed to enter the plant from the south to avoid the residential neighborhood if at all possible.

Grant Creek Interceptor Rehabilitation: There are segments of the Grant Creek Interceptor that are suspected of contributing significant inflow and infiltration to the collection system. This funding would help identify and repair these segments.

Spencer Plant Demolition: With the completion of the Spencer pump station and force main, Salisbury-Rowan Utilities can formally decommission the Town of Spencer's old wastewater plant. Piping and valving must be cut and sealed so the old pipes can no longer be used. All facilities are to be secured.

Impact on Operations in Water/Sewer Fund - *These capital improvements will not have an adverse impact on the operating costs of the Water and Sewer Fund. Currently, no additional staffing is proposed due to any CIP project, either for construction or ongoing operations. The proposed improvements are needed for upgrading aging infrastructure, providing services to new areas, equipping the system with backup and meeting mandates from both state and federal agencies.*

The City participates in extension projects that have an approximate 10-year payback, based on availability of funds in each budget year. During FY2004-05, the City is budgeting \$573,383 for extension projects. Any costs beyond the estimated payback or availability of funds are required to be paid by the developer.

Debt service requirements for the CIP are calculated in the Water/Sewer rate structure. The City does not anticipate issuing any additional debt during FY2004-05. Utility rates including operations and debt service for residential customers were approved by City Council to increase an average of 6.48% in FY2004-05.

CAPITAL IMPROVEMENT PROGRAM (FY 2005-09)

GENERAL FUND SCHEDULE

PROJECT DESCRIPTION (\$ 000's)	PROPOSED FUNDING SOURCE	TOTAL PROJECT COST FY 05-09	FIVE YEAR SCHEDULE (FY05 - FY09)				
			2004-05	2005-06	2006-07	2007-08	2008-09
BUILDINGS AND GROUNDS							
City Office Building							
Renovations to 1st Floor	General Fund	43	-	43	-	-	-
Renovations to 4th Floor	General Fund	20	-	-	-	-	20
	General Fund/						
The Plaza	Lease Purchase	1,639	-	1,543	42	32	22
Roof Replacements	General Fund	352	101	37	119	95	-
HVAC Replacements	General Fund	360	79	40	241	-	-
Fire Department							
Fire Station Repairs	General Fund	103	50	53	-	-	-
Construct New Fire Station	Lease Purchase	1,700	-	1,700	-	-	
Land Management & Development							
Ellis Street Bridge (Design)	General Fund	250	250	-	-	-	-
Ellis Street Bridge (Right-of-Way)	General Fund	55	55	-	-	-	-
Public Services - Street Division							
Landfill - Equipment Storage	General Fund	60	-	30	-	30	-
Landfill - Material Storage	General Fund	50	-	-	25		25
Enclose Vehicle Bay	General Fund	120	-	30	30	30	30
Winter Material Storage	General Fund	100	-	-	-	-	100
Street Division Addition	General Fund	150	-	-	150	-	-
Additional Parking	General Fund	25	-	-	25	-	-
Public Services - Landscape Ops.							
Additional Parking	General Fund	35	-	-	-	35	-
Hurley Park Irrigation Expansion	General Fund	10	-	-	10	-	-
PARKS & RECREATION							
Park & Facility Improvements	General Fund	589	89	125	125	125	125
Civic Center	Lease Purchase	10,000	-	10,000	-	-	-
Sports Complex Renovations	General Fund	250	-	125	125	-	-
Town Creek Park Development							
Gym	G.O. Bonds	1,500		-	1,500	-	-
Pool	G.O. Bonds	500	-	-	-	500	-
Park Land Acquisition	General Fund	225	-	100	-	-	125
Bank Shot Basketball	General Fund	45	-	45	-	-	-
TOTAL GENERAL FUND		\$ 18,181	\$ 624	\$ 13,871	\$ 2,392	\$ 847	\$ 447

CAPITAL IMPROVEMENT PROGRAM (FY 2005-09)
WATER AND SEWER FUND SCHEDULE

PROJECT DESCRIPTION (\$ 000's)	PROPOSED FUNDING SOURCE	TOTAL PROJECT COST	FIVE YEAR SCHEDULE				
		FY 05-09	(FY05 - FY09)				
			2004-05	2005-06	2006-07	2007-08	2008-09
WATER IMPROVEMENTS							
Annexation Area	W/S Fund	\$ 2,250	\$ -	\$ 250	\$ -	\$ 2,000	\$ -
Property Acquisition	W/S Fund	260	-	200	-		60
Security Improvements	W/S Fund	495	-	215	280	-	-
River Pump Station Improvements	W/S Fund	350	-	-	150	200	-
New River Pump Station Design	W/S Fund	750	-	750	-	-	-
Emergency Generators	W/S Fund	1,030	-	230	800	-	-
Rockwell Water Main	Other Sources	750	50	500	200	-	-
Granite Quarry Secondary Line	W/S Fund	500	-	-	-		500
Faith Water Extension	W/S Fund	1,500	-	-	-	500	1,000
Raw Water Reservoir (30 MG)	Revenue Bonds	6,000	-		3,000	3,000	-
Raw Water Reservoir Apron	W/S Fund	300	-	-	-	300	-
SCADA RTUs	W/S Fund	220	-	110	110	-	-
Automated Meter Reading	W/S Fund	1,500	-	-	500	500	500
Treatment Plant Renovation	W/S Fund	2,900	-	-	2,000	900	-
Storage Tanks	Revenue Bonds	4,000	-	-	-	-	4,000
TOTAL WATER IMPROVEMENTS		22,805	\$ 160	\$ 2,145	\$ 7,040	\$ 7,400	\$ 6,060
SEWER IMPROVEMENTS							
Annexation	W/S Fund	2,000	\$ -	\$ -	\$ -	\$ 2,000	\$ -
Property Acquisition	W/S Fund	500	-	-	500	-	-
Security Improvements	W/S Fund	195	19	176	-	-	-
Fiber Optic Extension	W/S Fund	401	-	71	-	330	-
I&I Reduction	W/S Fund	2,150	150	500	500	500	500
Emergency Generators	W/S Fund	230	-	230		-	-
Town Creek Belt Press	Revenue Bonds	710	-	710	-	-	-
Elimination of Land Application	W/S Fund	1,900	-	1,500	400	-	-
Plant Equipment Replacement	W/S Fund	3,120	300	300	80	600	1,840
I-85 Corridor Outfall Line	Revenue Bonds	3,500	-	1,000	2,500	-	-
Plant Capacity Expansion	Revenue Bonds	10,000	-	-	-	5,000	5,000
Plant Building Renovations	W/S Fund	3,170	-	-	170	-	3,000
Sewer Line Renovation	W/S Fund	320	-	120	200	-	-
Alternative Disinfection System	Revenue Bonds	440	-	-	-	440	-
SCADA Upgrades	W/S Fund	564	-	250	250	64	-
Town Creek Access Road	W/S Fund	200	-		-	200	-
Grant Creek Interceptor Rehab	W/S Fund	1,500	-	750	750	-	-
Spencer Plant Demolition	W/S Fund	200	-	200	-	-	-
TOTAL SEWER IMPROVEMENTS		31,100	\$ 576	\$ 5,700	\$ 5,350	\$ 9,134	\$ 10,340
TOTAL WATER / SEWER IMPROVEMENTS		\$ 53,905	\$ 736	\$ 7,845	\$ 12,390	\$ 16,534	\$ 16,400